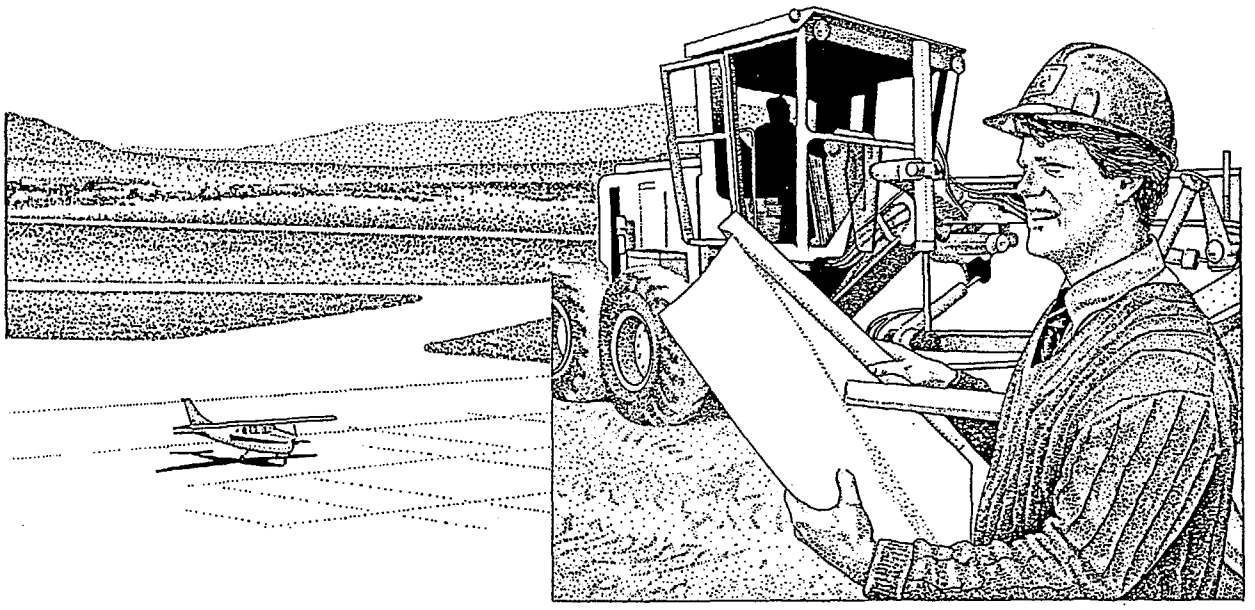
AIRPORT PLANS



Chapter Five
AIRPORT PLANS

Springerville Municipal Airport

In Chapter Four, an evaluation was made of future options for airfield and terminal area development. This resulted in the selection of a development alternative which could accommodate the identified requirements for airport facilities. The purpose of this chapter is to describe, through both narrative and graphic form, the recommended development plan through the 20-year planning period.

A set of plans, referred to as Airport Layout Plans, has been prepared to graphically depict the recommendations for airfield layout, disposition of obstructions and future use of land at the airport. This set of plans is listed on the **Plan Set Cover Sheet**, and includes:

- Airport Layout Plan (ALP)
- Terminal Area Plan
- Part 77 Airspace Plan
- Approach Zones Plans and Profiles
- Runway Protection Zones Plans and Profiles
- Land Use/Noise Plan
- Airport Property Map

The airport layout plan set has been prepared using a computer-aided drafting system in order to aid in its future use and update. The computerized plan set provides detailed information of both existing and future facility layouts on multiple layers that permit the user to focus in on any section of the airport at any scale. The plan set can be used as base information for design, and can be easily updated in the future to reflect new development or the results of design surveys. The plan set is also being provided in 24-inch by 36-inch reproducible hard copy in accordance with current FAA standards.

AIRPORT DESIGN STANDARDS

The design standards applied to the future development of Springerville Municipal Airport are prescribed in FAA Advisory Circular 150/5300-13, *Airport Design*. These criteria are based upon the characteristics of airplanes that the airport is expected to serve on a regular basis (250 or more operations a year). Most critical to airport design are the weight, wingspan and approach speed of the design aircraft or group of aircraft. An airport's reference code (ARC) is based upon a combination of the aircraft approach category and the airplane design group (ADG). These are further described in Chapter Three, Facility Requirements.

The FAA recommends designing airport functional elements to meet the requirements of the most demanding ARC for that airport. For Springerville Municipal Airport, the design ARC is B-II. This accommodates aircraft with approach speeds of up to 121 knots and wingspans of up to 79 feet. In addition to single- and twin-engine piston aircraft, this classification accommodates a number of business jets and commuter/regional aircraft, including the Rockwell Sabreliner, the Cessna Citation, the Dassault Falcon, and the Beech 1900-C.

The design standards used for Springerville Municipal Airport are summarized in **Table 5A, Airfield Planning Design Standards.** The majority of the airport has been designed in accordance with the B-II design criteria; however, because Runway 11-29 is only expected to be used by smaller aircraft (weighing less than 12,500 pounds), it has been designed to B-I standards.

TABLE 5A
Airfield Planning Design Standards
Springerville Municipal Airport

	Primary Runway 3-21	Crosswind Runway 11-29
Runways		
Length (feet)	8,425	6,000
Width (feet)	75	60
Strength (1,000 lbs.)	30 SWL	12.5 SWL
Safety Area		
Width (feet)	150	120
Length Beyond Runway End (feet)	300	240
Object Free Area		
Width (feet)	500	250
Length Beyond Runway End (feet)	300	240
Runway Centerline to:		
Building Restriction Line (feet) (35 ft. building height clearance)	495	370
Taxiway Centerline (feet)	240	240
Taxiways:		
Width (feet)	35	35
Strength (1,000 lbs.)	30 SWL	30 SWL
Centerline to Fixed or Movable Object (feet)	65.5	65.5
Runway Protection Zones		
Approach	Both Ends	Both Ends
Inner Width (feet)	500	250
Length (feet)	1,000	1,000
Outer Width (feet)	700	450
Approach Slope	34:1	20:1

NOTE: SWL -- Single Wheel Loading

AIRPORT LAYOUT PLAN

The **Airport Layout Plan (ALP)** drawing graphically represents the existing and ultimate layout of Springerville Municipal Airport. It depicts the recommended improvements which will enable the airport to meet forecast aviation demand. Detailed airport and runway data are provided on the ALP to facilitate the interpretation of the master plan recommendations. Wind coverage data is also provided.

The ALP illustrates a number of airport improvements associated with both the airfield and landside areas. The improvements on the landside are illustrated in more detail and in a larger scale on the Terminal Area Plan drawing and are discussed later in this chapter. The following discussion relates to the airfield recommendations.

RUNWAY 3-21

Runway 3-21 will continue to function as the primary runway at Springerville Municipal Airport throughout the planning period. This runway has better wind coverage at both 12 miles per hour (MPH) and 15 MPH than does Runway 11-29, and it can accommodate instrument approaches to both runway ends.

The plan does not provide for a runway extension because the existing runway is just 25 feet less than the recommended length for accommodating 100 percent of small airplanes. This difference is not significant and its impact on the use of the airfield should be negligible.

The analysis of additional information regarding the current pavement design for Runway 3-21 indicates that the existing pavement strength is likely to be in excess of 30,000 pounds single-wheel loading (SWL). It was determined, therefore, to be unnecessary to provide a pavement overlay to strengthen the runway, as suggested in the Development Alternatives chapter.

Precision Approach Path Indicator (PAPI) lighting will replace the existing Visual Approach Slope Indicator (VASI) approach lighting system on both runway ends.

The FAA is currently developing a nonprecision approach to Runway 21 using the Global Positioning System (GPS) technology. In addition, the ALP provides for the ultimate installation of a nonprecision approach to Runway 3. This approach should be possible, even with the proximity of the mountains. The final determination, however, will need to be made by the FAA.

RUNWAY 11-29

As the crosswind runway at Springerville Municipal Airport, Runway 11-29 is used exclusively by smaller, general aviation aircraft classified as ADG I (wingspans of up to but not including 49 feet). Because of their size, these aircraft require less runway length, width and strength than do the larger, general aviation aircraft. As a result, Runway 11-29 has been designed to a length of 6,000 feet (80 percent of the length of Runway 3-21), a width of 60 feet and a pavement strength of 12,500 pounds SWL. In order to provide for the 1,411 foot runway extension, additional land will need to be acquired.

Runway 29 will be equipped with a PAPI approach lighting system similar to the existing system on Runway 11.

Each end of Runway 11-29 has been maintained with visual approaches. Nonprecision approaches to both ends of Runway 11-29 were evaluated and determined to be unnecessary given the limited use of the runway. Because this runway would be limited to aircraft of 12,500 pounds or less, a nonprecision approach could be provided at a future date with the same runway protection zone configuration and approach slope of a visual runway (i.e., 20:1 approach slope), should it be determined to be necessary.

TAXIWAY SYSTEM

The existing taxiway system at Springerville Municipal Airport consists of a full-parallel taxiway to Runway 3-21. This taxiway is planned to be widened from 30 feet to 35 feet, in accordance with the ARC B-II design standards. All other taxiways have also been designed to B-II standards, even those associated with the crosswind runway. This is to allow the greatest level of access between the landside areas and the airfield, particularly Runway 3-21, for those aircraft with the larger wingspans.

TERMINAL AREA PLAN

The **Terminal Area Plan** is depicted on **Sheet No. 2** and represents a refinement of the selected development concept. This sheet provides a larger scale plan of the primary landside development area at Springerville Municipal Airport (the eastern quadrant, as formed by the intersecting runways).

The dominant feature of this plan is the ultimate relocation of the FBO building and hangar outside of the Runway Visibility Zone. In addition, the plan includes the proposed locations for aircraft parking apron, terminal building, T-hangars, above ground fuel storage facilities, automobile parking, and an area for use by the U.S. Forest Service.

AIRSPACE PLANS

Three drawings in the plan set provide varying levels of detail on the airspace associated with the ultimate development of Springerville Municipal Airport. These include the FAR Part 77 Airspace, Approach Zones Profiles, and Runway Protection Zones Plans. These are described in more detail in the following paragraphs.

PART 77 AIRSPACE PLAN

The **Part 77 Airspace Plan**, depicted on **Sheet No. 3** of the ALP set, reflects Part 77 critical surfaces for the recommended airfield development at Springerville Municipal Airport. The Plan is based on Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*. FAR Part 77 has been established to protect the airspace and approaches to each runway from hazards which could affect the safe and efficient operation of aircraft. These federal criteria have also been established for use by local jurisdictions in providing land use compatibility, particularly the

height of structures, in the vicinity of an airport.

This drawing is also used to indicate potential obstructions which are located within the imaginary surfaces of the airport. Ideally, the obstruction would be removed or lowered beneath the imaginary Part 77 surfaces. Obstructions which cannot be removed or adequately lowered need to be reviewed by the FAA to determine if they will seriously impact navigable airspace. This is done through the completion of an FAA Aeronautical Study. Because there is no existing instrument approach at Springerville Municipal Airport the National Oceanic and Atmospheric Administration (NOAA) has not prepared an *Airport Obstruction Chart* for the facility; therefore, the obstructions were derived from the current USGS maps for the area and a list prepared by NOAA.

There are several critical imaginary surfaces which categorize the airspace around the airport. The runways at Springerville Municipal Airport each have a primary and transitional surface that connects to horizontal and conical surfaces. The surface heights, angles and radii for each of these surfaces are determined by the type of runway and its instrumentation. Each of these surfaces are described in the subsequent paragraphs.

Primary Surface

The primary surface is the imaginary surface located closest to the runway environment. It extends 200 feet beyond each runway end and its width depends on the type of runway approach capability (visual, nonprecision or precision). In addition, the elevation of the primary surface is the same as the ground elevation along the associated part of the runway.

With its planned nonprecision instrument approaches, Runway 3-21 will have an ultimate primary surface that is 500 feet wide, centered on the runway. The length of the primary surface for this runway will be 8,825 feet (the length of the runway plus 200 feet on each end). The ultimate primary surface width for Runway 11-29 will be 250 feet, consistent with its proposed visual approaches, and its length will be 6,400 feet.

Situated adjacent to the runway and taxiway system, the primary surface must remain clear of most objects in order to permit unobstructed passage of aircraft. Objects are only permitted within the primary surface if they are no taller than two feet above the ground and if they are constructed on frangible (breakaway) fixtures. The only exception to the two-foot height limit is for objects whose location is fixed by their functional purpose. Approach slope indicator lights and equipment shelters are examples of such objects within the category of "fixed by function."

Analysis indicates that there are no objects located within the primary surfaces of either runway.

Approach Surface

An approach surface is also established for each runway end. The approach surface has the same inner width as the primary surface and then flares, or gets wider, as it rises upward and outward along the

extended runway centerline from the primary surface. The slope of the rise and the length of the approach surface is dictated by the type of approach available to the runway (e.g. visual, nonprecision or precision) and by the size of the aircraft for which the runway is designed.

At Springerville Municipal Airport, both ends of Runway 3-21 are planned to have nonprecision approach surfaces sized for aircraft weighing greater than 12,500 pounds and having visibility minimums of one mile. The approach surface will, therefore, have an inner width the same as the width of the primary surface (500 feet) expanding to an outer width of 3,500 feet at a distance of 10,000 feet. The approach slope will be one vertical foot for each 34 feet of horizontal distance (34:1).

Both ends of Runway 11-29 are planned to have visual approach surfaces sized for aircraft weighing 12,500 pounds or less. This results in an approach surface with an inner width of 250 feet expanding to an outer width of 1,250 feet at a distance of 5,000 feet. The approach slope will be one vertical foot for each 20 feet of horizontal distance (20:1).

The approach surfaces to each runway end are more fully described within the section titled Approach Zones Plans and Profiles.

Transitional Surface

Each runway has a transitional surface that begins at the outside edge of the primary surface at the same elevation as the runway. The transitional surface also connects to the approach surfaces of each runway. It rises at a slope of one foot vertically for each seven feet horizontal distance (7:1), up to a height which is 150 feet above the highest runway elevation.

Analysis indicates that there are no penetrations of the transitional surfaces.

Horizontal Surface

The horizontal surface is established at 150 feet above the highest elevation of either runway. Having no slope, it connects the transitional and approach surfaces to the conical surface for each runway end. The horizontal surface for Runway 3-21 extends for a distance of 10,000 feet from each runway end's primary surface while that of Runway 11-29 extends 5,000 feet from each runway end's primary surface. At Springerville, the horizontal surface will be at an elevation of 7202 feet MSL.

Analysis indicates that there is one penetration to the horizontal surface: a $\pm$260 foot high tower which penetrates the horizontal surface by 50 feet, located east of the arrival end of Runway 21. In order to examine the effects of this penetration, an FAA Aeronautical Study should be requested.

Conical Surface

The conical surface begins at the outer edge of the horizontal surface. The conical surface then continues for an additional 4,000 feet horizontally at a slope of one foot vertical rise for each 20 feet of horizontal distance (20:1). At 4,000 feet from the horizontal surface, the elevation of the conical surface is, therefore, 350 feet

above the highest airport elevation (7402 feet MSL).

There is a large area of terrain southwest of the airport which penetrates into the conical surface. This area contains three specific obstructions, all related to mountain peaks. In order to examine the effects of these penetrations, an FAA Aeronautical Study should be requested.

APPROACH ZONES PLANS AND PROFILES

The **Approach Zones Plans and Profiles (Sheet No. 4)** presents a profile representation of the approach surfaces to each runway end as outlined on the **Part 77 Airspace Plan.** The profile views depict known natural and man-made features in the vicinity of, and along the entire length of the approach surface for each runway end. These profile views facilitate identification of obstructions that lie within areas that should be free of objects and/or which could endanger the safe flight of aircraft.

As previously described, the approach surface has the same inner width as the primary surface and then flares out as it rises upward and outward, along the extended runway centerline, from the primary surface. The dimensions for the nonprecision instrument approach surfaces for Runways 3 and 21 are 500 feet (inner width) by 10,000 feet (length) by 3,500 feet (outer width), at a slope of 34 feet horizontal for every one foot vertical (34:1). The dimensions for the visual approach surfaces for Runways 11 and 29 are 250 feet (inner width) by 5,000 feet (length) by 1,250 feet (outer width), at a slope of 20:1. Analysis indicates there are no penetrations into the approach surfaces at Springerville Municipal Airport.

RUNWAY PROTECTION ZONES PLANS AND PROFILES

The **Runway Protection Zones Plans and Profiles (Sheet No. 5)** illustrates the plan and profile view of the innermost portion of the approaches to each runway. The purpose of the approach RPZs is to provide as clear an area as possible for aircraft takeoffs and landings. Objects located within an approach RPZ can be difficult for aircraft to avoid, particularly those not having high performance capabilities.

RPZs typically begin 200 feet before the runway end and extend into the approach area. The distance which an RPZ extends into the approach area varies according to the runway's instrument approach capabilities and whether aircraft using the runway are classified as small (less than 12,500 pounds) or large (greater than 12,500 pounds. Unlike the approach surfaces, RPZ surfaces remain at ground level.

The RPZs for both Runway 3 and 21, which are planned for nonprecision instrument approaches with visibilities of one (1) mile, will have the dimensions of 500 feet (inner width) by 1,000 feet (length) by 700 feet (outer width). The dimensions of the RPZs for both ends of Runway 11-29, which will be limited to visual approaches by small aircraft, will be 250 feet (inner width) by 1,000 feet (length) by 450 feet (outer width).

Analysis indicates that there are no obstructions within the four RPZs at Springerville Municipal Airport.

LAND USE/NOISE PLAN

The objective of the **Land Use/Noise Plan (Sheet No. 6)** is to coordinate uses on and adjacent to the airport property in a manner compatible with the functional design and use of the airport facility. On-airport land use planning is important for the orderly development and efficient use of limited, available space. Off-airport planning is equally important to ensure that neighboring land is developed or used in a manner which is complimentary to the varied activity occurring on the airport. Recommended on-airport and off-airport land uses are discussed in the following sections.

An additional consideration to determining both on and off-airport land uses at Springerville Municipal Airport is the proposed U.S. 60/SR 260 bypass road (expected to be located west of the airport, as illustrated on **Exhibit 5A, Generalized Proposed Road Corridor**) and the extension of the airport perimeter road around Runway 3, to the west landside quadrant (as formed by the intersecting runways), and then to the bypass road. By providing a secondary means of access and egress to the airport facility, these two roadways will improve emergency response capabilities and access to the airport by commercial/industrial vehicles. Currently, the only access to the airport, Airport Road, is narrow in places and goes through a residential neighborhood. The western access would be expected to reduce the amount of commercial/industrial traffic through this residential neighborhood and provide an alternative means of access to the airport should Airport Road ever become impassable.

ON-AIRPORT LAND USES

On-airport land encompasses all property controlled, or intended to be controlled, by the Town of Springerville for the purpose of providing a public-use airport. "On-airport" includes land that is needed for the development and use of runways, taxiways, aprons, terminal buildings, automobile access and parking, and revenue support, among others. There are two primary considerations for on-airport land use planning: first, those areas essential to the safe and efficient operation of the airport must be secured and, second, compatible land uses for the balance of the property need to be determined.

The **Land Use/Noise Plan** depicts the recommendations for ultimate land use development on the airport. The long-range plans for the area are consistent with the current use of the property, with the exception of the location of the Fixed Based Operator (FBO) facility. As discussed in Chapter Four, the existing FBO building is located within the Runway Visibility Zone (RVZ). This building is planned to be relocated outside of the RVZ as soon as is feasible. In the meantime, the FBO building should not be improved or expanded in its present location.

Several airport land use categories have been identified. They include Airfield Operations, General Aviation Area and

Revenue Support. These categories are discussed in the following paragraphs.

Airfield Operations

The airfield operations area is the most critical category of land use since it includes all areas necessary for the safe operation of aircraft to and from the airport. The included items are runway and taxiway areas, runway approaches where clearance is not adequate to permit other uses, and areas where navaids will be located. At Springerville Municipal Airport this includes both the existing Runway 3-21 and the extended Runway 11-29 and all associated taxiways, taxiway exits, runway protection zones, and areas within the building restriction lines.

General Aviation Area

The general aviation land use category typically consists of aircraft aprons, Fixed Base Operator lease areas, aircraft hangars and tiedowns, airport operations and maintenance facilities, general aviation terminal building, and automobile parking. These sites are primarily designed to store and service general aviation aircraft and house airport support services. At Springerville Municipal Airport, this category also includes an area for U.S. Forest Service aviation support facilities and apron, a Recreational Airport apron/camping area and a general aviation/commercial terminal building.

The General Aviation Area may also include some Revenue Support uses (see below), provided the public general aviation uses and needs are given the highest priority and long-term consideration. Leases for Revenue Support parcels in the General Aviation Area should provide the Town of Springerville with the greatest flexibility possible to ensure that adequate land is available to meet future apron and hangar needs (beyond the planning period).

At Springerville Municipal Airport the General Aviation Area is primarily located in the eastern quadrant (as formed by the intersecting runways), on the airfield side of the airport perimeter road. Under the ALP, the north quadrant will be used to locate some airport facilities currently located on the east quadrant, including the segmented circle and the Tucson Electric Power monitoring station. This area will also support the proposed Automated Surface Observing System (ASOS).

Revenue Support Area

This land use category consists of industrial and commercial activities that are attracted to an airport location. These uses not only provide additional employment opportunities at the airport, but also maximize the use of the land for revenue generation to support the airport operation.

Two categories of Revenue Support have been provided for on the **Land Use/Noise Plan**, these are Aviation-Related and General Revenue Support. The Aviation-Related Revenue Support parcels have all been provided with taxiway access to the runway system. These parcels are ideal for use by industries and business which utilize aircraft in their operations, or supply and service aircraft. The General Revenue Support parcels do not have taxiway access; these parcels are suited for

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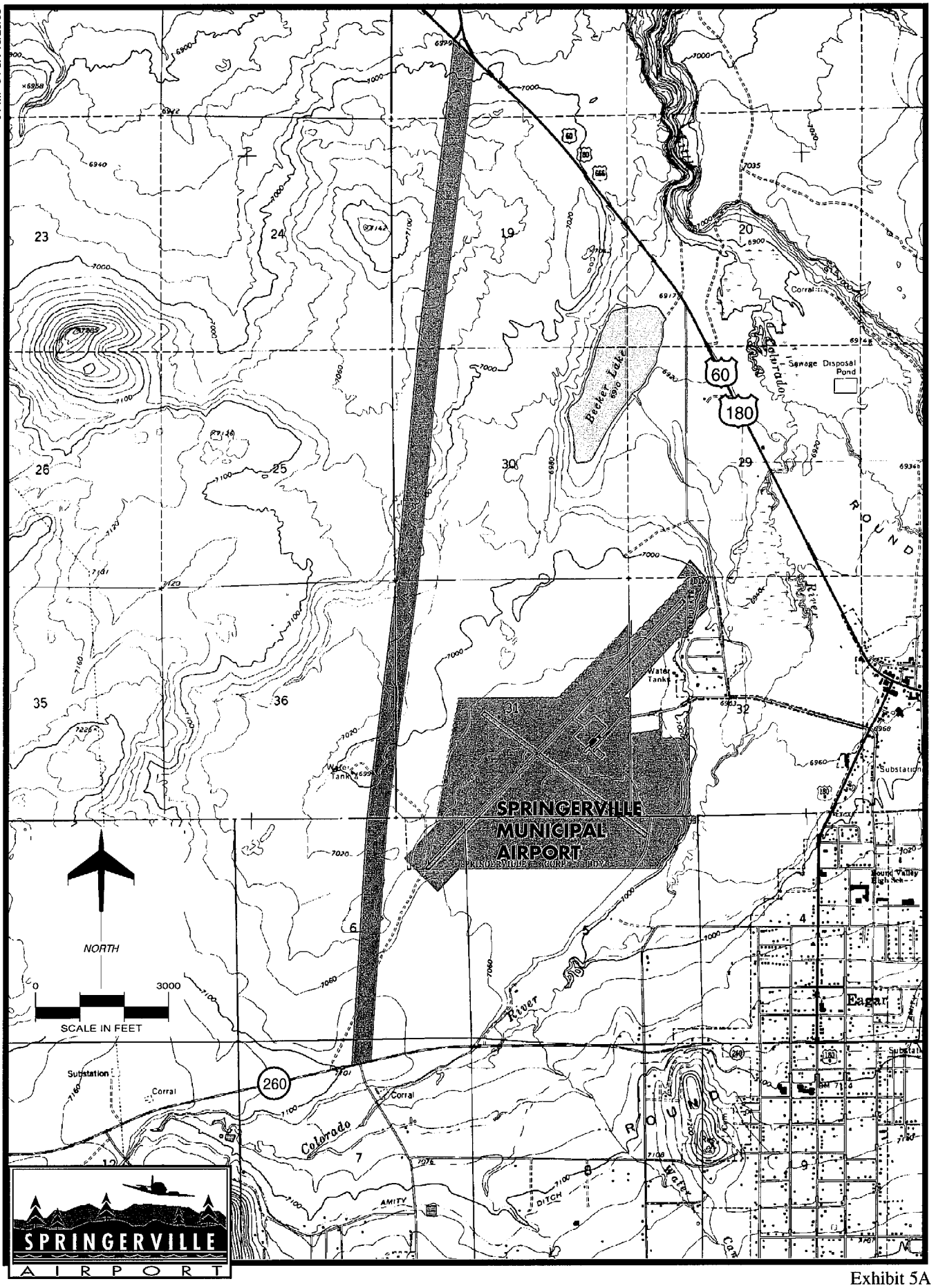


Exhibit 5A
GENERALIZED PROPOSED
ROAD CORRIDOR

businesses which do not require direct airfield access.

Because proceeds from leasing the parcels will be used for airport support and maintenance, the Revenue Support land use category is in keeping with the original deed for the airport which stipulates that the property be used "for the sole and only purpose of an airport or landing field." Ultimately, the leasing of these parcels will enable the airport to be self-sufficient.

Two landside quadrants and a portion of a third have been designated for Revenue Support: the west and south, and part of the east.

OFF-AIRPORT LAND USES

Land that is not needed for the safe operation of the airport and which is not under the control of the Town of Springerville, is considered to be off-airport. The **Land Use/Noise Plan** depicts the area closest to the airport and provides recommendations for the ultimate development and use of that area. The primary considerations for determining off-airport land uses are the location of noise contours and areas subject to frequent, low aircraft overflights.

The noise contours for the year 2015, illustrated on the plan, were determined using the Integrated Noise Model, Version 4.11, one of two computerized noise models used by the FAA. The model calculates the *Yearly Day Night Average Sound Level* (DNL) by adding up all the sound exposure during daytime (7 AM to 10 PM) plus ten times the sound exposure occurring during nighttime (10 PM to 7 AM) and averaging this sum by the number of seconds during a 24-hour day.

The FAA has determined that 65 DNL is the threshold of significance, meaning that noise-sensitive land uses occurring outside of the 65 DNL noise contour are considered compatible with the airport while those located within the 65 DNL contour may be either incompatible or compatible only with exterior to interior noise level reductions. (At Springerville Municipal Airport, the 65 DNL contour is located entirely within airport property.) Experience at other general aviation airports has indicated, however, that in rural areas, aviation noise levels down to 55 DNL may be considered of marginal impact to neighboring residents. The Town of Springerville should consider, and encourage the neighboring jurisdictions to consider, the 55 DNL contour when determining future land uses in the vicinity of the airport. The noise contours indicate that the 55 DNL is primarily located on airport property.

Sheet No. 6 recommends a variety of land uses in the area around Springerville Municipal Airport. Generally, residential and other noise-sensitive land uses (e.g. schools, hospitals and places of worship) are not recommended within the 65 DNL noise contour. The Town of Springerville and neighboring jurisdictions should also consider prohibiting these uses within the 55 DNL contour, or permitting them only after the release of noise and avigation easements to the airport, or the use of noise reduction construction techniques. These uses are also discouraged from locating along the runway alignment within one mile of the airport as this area would be expected to experience frequent and

low overflights from both approaching and departing aircraft.

In some instances, these off-airport land uses differ from existing land uses in the area. In order to provide future land use compatibility with the airport, major expansion or improvements to the existing use should be discouraged.

Two off-airport land use categories have been identified: residential and commercial/industrial.

Residential

This land use category consists of those uses considered noise-sensitive. Both existing residential development and undeveloped land west of the airport have been designated for this use.

Because of the noise from aircraft operations, engine run-ups and maintenance, residential uses should not be encouraged adjacent the airport.

Commercial/Industrial

This land use category would provide for the development of a combination of retail, service, office, convention facilities, warehouses, distribution centers, and other light industrial uses near the airport. Areas recommended for these uses are located on all sides of the airport.

AIRPORT PROPERTY MAP

The **Airport Property Map, Sheet No. 7,** depicts the property that was acquired in order to construct the existing runways, taxiway and general aviation area at Springerville Municipal Airport. This property was originally acquired in 1948 for the purpose of providing a public airport facility. The most recent acquisition was completed in 1992 and includes the land acquired for the extension of Runway 3-21 and its related clear zones.

Approximately 555 acres are currently under the control of the Town of Springerville.

Also shown on the **Airport Property Map** is the land area that is planned for acquisition during the 20-year planning period. Approximately 106 acres will need to be acquired in order to implement the ALP as proposed.

SUMMARY

The airport layout plan drawing set is designed to provide basic guidance for the Town of Springerville, Town of Eager and Apache County in making decisions relative to future development around Springerville Municipal Airport. The plan provides for development to satisfy both short-term and long-term needs. Flexibility will be a key to future development as demands are not likely to occur exactly as forecast. The plan has considered demands that could be placed upon the airport even beyond the twenty-year period to ensure the facility is capable of accommodating a variety of circumstances.

The **Part 77 Airspace Plan** should be used as a tool to evaluate the potential impacts the heights of future structures or antennae in the area could have on the airport's

operations viability. The **Land Use/Noise Plan** should be used by the Town to designate compatible land uses within the vicinity of the airport. In addition, the ALP plan set provides the Town of Springerville with an on-airport land use plan that identifies the portions of the airport which should be dedicated for community development.

By following the general recommendation of the plan, the Town of Springerville can maintain the long-term viability of the airport and continue to provide quality air transportation service to the Round Valley.

AIRPORT LAYOUT PLANS

INDEX OF DRAWINGS

ADOT TRACS #N447

Coffman Associates
Airport Consultants

AIRPORT DATA

SPRINGERVILLE MUNICIPAL AIRPORT (Q35)

CITY: SPRINGERVILLE — COUNTY: APACHE, ARIZONA

RANGE: 29 EAST TOWNSHIP: 9 NORTH — CIVIL TOWNSHIP: N/A

		EXISTING	ULTIMATE
AIRPORT SERVICE LEVEL		GENERAL AVIATION	SAME
AIRPORT REFERENCE CODE		B-II	SAME
AIRPORT ELEVATION		7052'	SAME
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		83.1°F (July)	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	34°07'43.200" N	34°07'44.417" N
	Longitude	109°18'41.400" W	109°18'43.969" W
AIRPORT and TERMINAL NAVIGATIONAL AIDS		ROTATING BEACON	SAME
		--	GPS (RWY. 3-21)
		--	--
		--	--
		--	--

DEVIATIONS FROM FAA AIRPORT DESIGN STANDARDS

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	STANDARD	EXISTING	PROPOSED DISPOSITION
-	-	-	-	-

RUNWAY END COORDINATES (NAD 83)		EXISTING	ULTIMATE
RUNWAY 3	Latitude	34°07'16.196" N	SAME
	Longitude	109°19'17.213" W	SAME
RUNWAY 21	Latitude	34°08'16.333" N	SAME
	Longitude	109°18'7.825" W	SAME
RUNWAY 11	Latitude	34°07'51.641" N	34°07'59.914" N
	Longitude	109°19'0.770" W	109°19'14.293" W
RUNWAY 29	Latitude	34°07'23.737" N	SAME
	Longitude	109°18'17.713" W	SAME

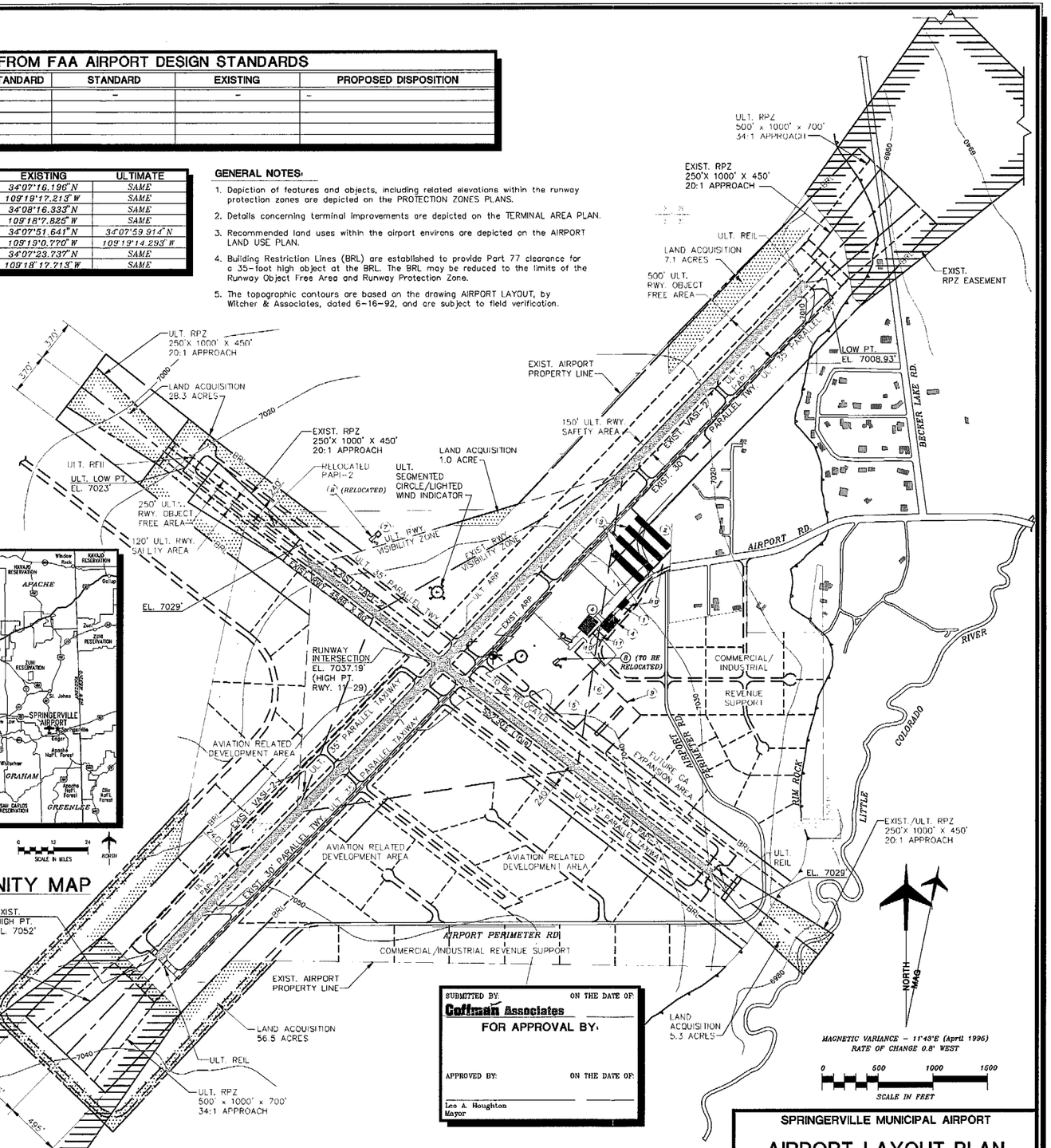
RUNWAY DATA

	RUNWAY 3-21		RUNWAY 11-29	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE
AIRPORT REFERENCE CODE	B-II	SAME	B-I	SAME
RUNWAY AZIMUTH	43.783	SAME	127.500	SAME
RUNWAY BEARING	N43°47'00"E	SAME	S52°30'00"E	SAME
RUNWAY DIMENSIONS	8425' X 75'	SAME	4589' X 60'	6000' X 60'
APPROACH VISIBILITY MINIMUMS	+1 Mile/+1 Mile	SAME	+1 Mile/+1 Mile	SAME
RUNWAY INSTRUMENTATION	VISUAL/VISUAL	NONPREC./NONPREC.	VISUAL/VISUAL	SAME
RUNWAY APPROACH SURFACES	20:1/20:1	34:1/34:1	20:1/20:1	SAME
RUNWAY THRESHOLD DISPLACEMENT	NONE	SAME	NONE	SAME
RUNWAY STOPWAY	NONE	SAME	NONE	SAME
RUNWAY SAFETY AREA	9025' X 150'	SAME	5189' X 150'	6480' X 120'
RUNWAY OBSTACLE FREE ZONE	8825' X 400'	SAME	4989' X 400'	6400' X 250'
RUNWAY OBJECT FREE AREA	9025' X 500'	SAME	5189' X 500'	6480' X 250'
TAKEOFF RUN AVAILABLE (TORA)	8425'/8425'	SAME	4589'/4589'	6000'/6000'
TAKEOFF DISTANCE AVAILABLE (TODA)	8425'/8425'	SAME	4589'/4589'	6000'/6000'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	8425'/8425'	SAME	4589'/4589'	6000'/6000'
LANDING DISTANCE AVAILABLE (LDA)	8425'/8425'	SAME	4589'/4589'	6000'/6000'
PAVEMENT MATERIAL	ASPHALT	SAME	ASPHALT	SAME
PAVEMENT SURFACE TREATMENT	NONE	SAME	NONE	SAME
PAVEMENT STRENGTH (in thousand lbs.)[1]	30(S)	SAME	12.5 (S)	SAME
RUNWAY EFFECTIVE GRADIENT (in %)	.51	SAME	0.0	SAME
RUNWAY MARKING	VISUAL/VISUAL	NONPREC./NONPREC.	VISUAL/VISUAL	SAME
RUNWAY LIGHTING	MIRL	SAME	MIRL	SAME
RUNWAY APPROACH LIGHTING	NONE	SAME	NONE	SAME
TAXIWAY LIGHTING	REFLECTORS	MITL	REFLECTORS	MITL
TAXIWAY MARKING	CENTERLINE	SAME	CENTERLINE	SAME
NAVIGATIONAL/VISUAL AIDS	VASI-2 (BOTH)	PAPI-2 (BOTH)	PAPI-2 (11)	PAPI-2 (BOTH)
	--	GPS (BOTH)	--	REIL (BOTH)
	--	REIL (BOTH)	--	--
	--	--	--	--
	--	--	--	--

[1]Pavement strengths are expressed in Single(S), Dual(D), Dual Tandem(DT), and/or Double Dual Tandem(DDT) wheel loading capacities.

GENERAL NOTES:

1. Depiction of features and objects, including related elevations within the runway protection zones are depicted on the PROTECTION ZONES PLANS.
2. Details concerning terminal improvements are depicted on the TERMINAL AREA PLAN.
3. Recommended land uses within the airport environs are depicted on the AIRPORT LAND USE PLAN.
4. Building Restriction Lines (BRL) are established to provide Part 77 clearance for a 35-foot high object at the BRL. The BRL may be reduced to the limits of the Runway Object Free Area and Runway Protection Zone.
5. The topographic contours are based on the drawing AIRPORT LAYOUT, by Witcher & Associates, dated 6-16-92, and are subject to field verification.



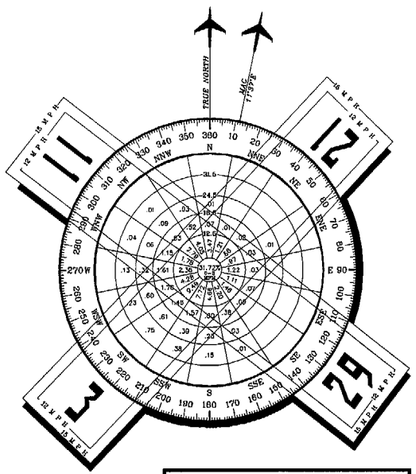
VICINITY MAP

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		SEGMENTED CIRCLE/WIND INDICATOR
		SECTION CORNER
1080		TOPOGRAPHIC CONTOURS (See Note 5.)
		WIND INDICATOR (Lighted)

BUILDINGS/FACILITIES

EXISTING	ULTIMATE	DESCRIPTION
--	(1)	ADMINISTRATION/TERMINAL BUILDING
--	(2)	T-HANGARS (STANDARD)
--	(3)	T-HANGARS (NESTED)
(4)	(4)	FIXED BASE OPERATION BLDG. (FBO)
--	(5)	USFS APRON AREA
--	(6)	USFS BUILDING AREA
--	(7)	ASOS (Automated Surface Observation System)
(8)	(8)	TUCSON ELECTRIC POWER MONITORING STATION
--	(9)	AVIATION RECREATION AREA
--	(10)	AUTO PARKING
--	(11)	FUEL STORAGE AREA



ALL WEATHER WINDROSE

SOURCE:
Tucson Gas & Electric
Readings taken at
Springerville Municipal Airport
Springerville, Arizona

OBSERVATIONS:
July 1984 - March 1985

ALL WEATHER WIND COVERAGE	12 M.P.H.	15 M.P.H.
Runway 3-21	93.14%	95.91%
Runway 11-29	88.89%	90.00%
Combined Coverage	98.89%	99.77%

SUBMITTED BY: Coffman Associates — ON THE DATE OF ____

FOR APPROVAL BY:

APPROVED BY: ____ — ON THE DATE OF ____

Leo A. Houghton
Mayor

No.	REVISIONS	DATE	BY	APP'D
1	-	-	-	-

SPRINGERVILLE MUNICIPAL AIRPORT

AIRPORT LAYOUT PLAN

SPRINGERVILLE, ARIZONA

PLANNED BY: Kathryn W. May/Scott S. Gray
DETAILED BY: W.E. Holland
APPROVED BY: Jeanette V. Coffman

October 18, 1995 — SHEET 1 OF 7

Coffman Associates
Airport Consultants

LAND ACQUISITION
1.0 ACRE

BRL

ULT. RWY. VISIBILITY ZONE

EXIST. RWY. VISIBILITY ZONE

495'

500'

150'

495'

ULT. RUNWAY OBJECT FREE AREA

ULT. RUNWAY SAFETY AREA

ULT. RUNWAY SAFETY AREA

ULT. RUNWAY OBJECT FREE AREA

ULTIMATE
SEGMENTED CIRCLE/
LIGHTED WIND INDICATOR

EXIST./ULT. RWY. 3-21 8425' X 75'

ULT. 35' PARALLEL TWY.

ULT. ARP

EXIST. ARP

TO BE RELOCATED

TO BE REMOVED

(4) (TO BE RELOCATED)

(8) (TO BE RELOCATED)

BRL

AIRPORT RD.

RIM ROCK CLIFF 75'

(1) For location of these items see AIRPORT LAYOUT PLAN, Sheet 1 of these plans.

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		SEGMENTED CIRCLE/WIND INDICATOR
SECTION 17		SECTION CORNER
1080		TOPOGRAPHIC CONTOURS (See Note 4.)
		WIND INDICATOR (Lighted)

BUILDINGS/FACILITIES

EXISTING	ULTIMATE	DESCRIPTION
---	(1)	ADMINISTRATION/TERMINAL BUILDING
---	(2)	T-HANGARS (STANDARD)
---	(3)	T-HANGARS (NESTED)
(4)	(4)	FIXED BASE OPERATION BLDG. (FBO)
---	(5)	USFS APRON AREA
---	(6)	USFS BUILDING AREA
---	(7)(1)	ASOS (Automated Surface Observation System)
(8)	(8)(1)	TUCSON ELECTRIC POWER MONITORING STATION
---	(9)	AVIATION RECREATION AREA
---	(10)	AUTO PARKING
---	(11)	FUEL STORAGE AREA

GENERAL NOTES:

1. Depiction of features and objects, including related elevations within the runway protection zones are depicted on the PROTECTION ZONES PLANS.
2. Recommended land uses within the airport environs are depicted on the AIRPORT LAND USE PLAN.
3. Building Restriction Lines (BRL) are established to provide Part 77 clearance for a 35-foot high object at the BRL. The BRL may be reduced to the limits of the Runway Object Free Area and Runway Protection Zone.
4. The topographic contours are based on the drawing AIRPORT LAYOUT, by Witcher & Associates, dated 6-16-92, and are subject to field verification.

ULT. RWY. 6000' X 60'

ULT. 35' PARALLEL TAXIWAY

ULT. RUNWAY OBJECT FREE AREA

ULT. RUNWAY SAFETY AREA

ULT. RUNWAY SAFETY AREA

ULT. RUNWAY OBJECT FREE AREA

ULT. 35' PARALLEL TAXIWAY

120'

250'

370'

EXIST./ULT. RUNWAY VISIBILITY ZONE

BRL

700'

FUTURE GA EXPANSION AREA

PERIMETER RD.

AIRPORT

700'

COMMERCIAL/INDUSTRIAL REVENUE SUPPORT

COMMERCIAL/INDUSTRIAL REVENUE SUPPORT

NORTH MAG

MAGNETIC VARIANCE - 11°43'E (April 1996)
RATE OF CHANGE 0.8' WEST

0 100 200 300
SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
1	-	-	-	-

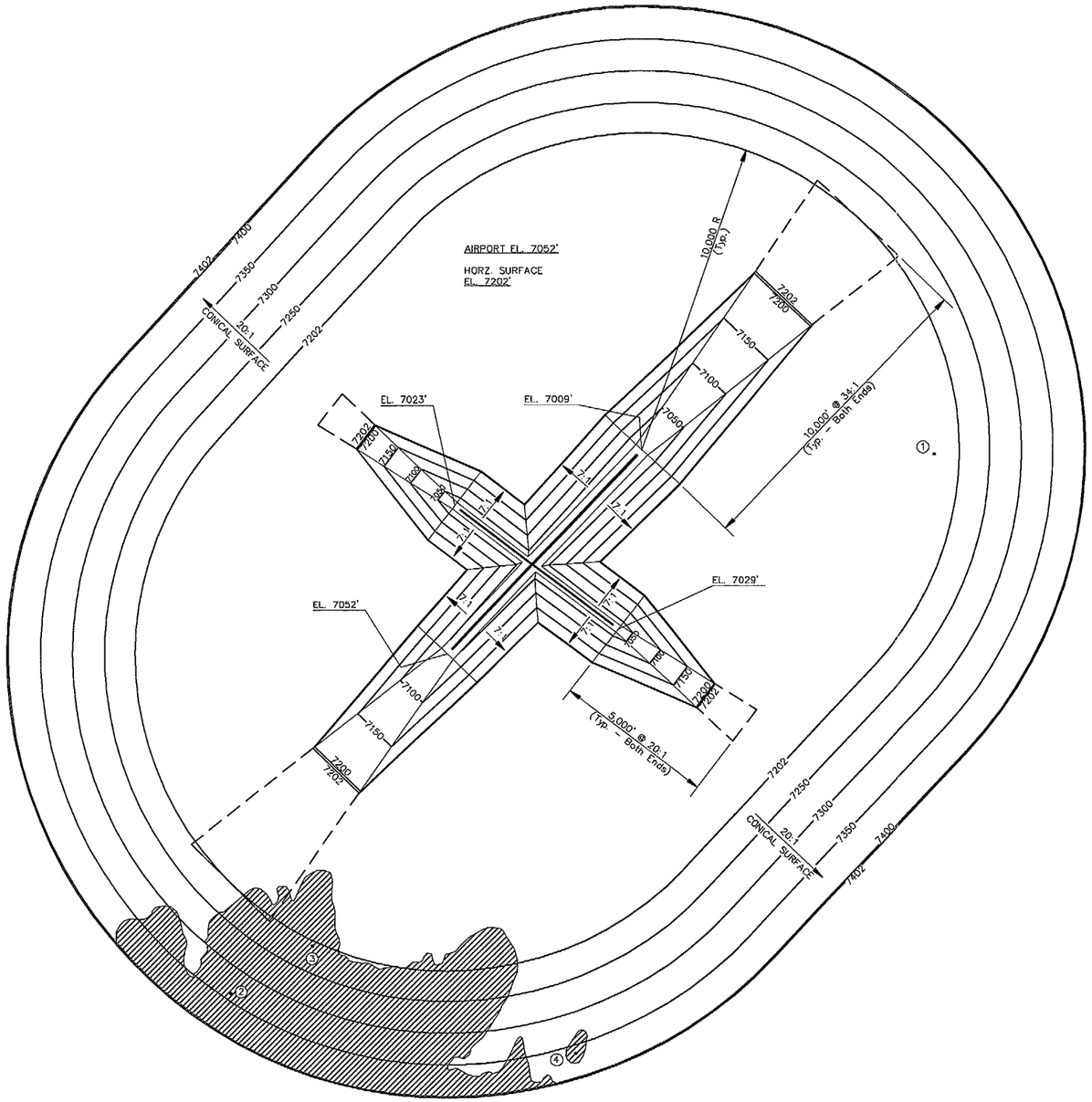
SPRINGERVILLE MUNICIPAL AIRPORT

TERMINAL AREA PLAN

SPRINGERVILLE, ARIZONA

PLANNED BY: Kathryn W. May/Scott S. Gray
DETAILED BY: W.S. Holland
APPROVED BY: Jeanelle V. Coffman
October 18, 1995

Coffman Associates
Airport Consultants



OBSTRUCTION TABLE

	Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
①	Tower	7252'	Horizontal	7202'	+50'	
②	Terrain	7553'	Conical	7339'	+214'	Request FAA
③	Terrain	7355'	Conical	7210'	+145'	Aeronautical Study
④	Terrain	7410'	Conical	7363'	+47'	

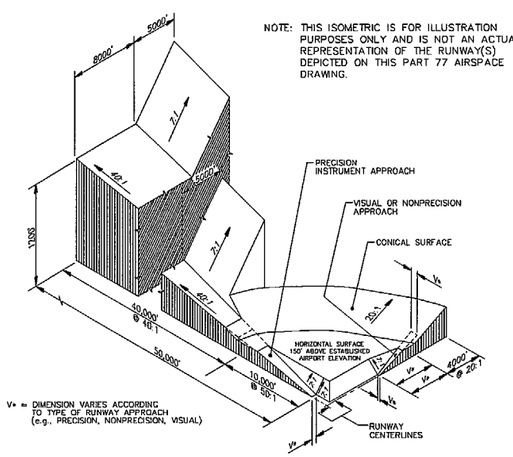
OBSTRUCTION LEGEND

① OBSTRUCTION

① GROUP or MULTIPLE OBSTRUCTIONS

GENERAL NOTES:

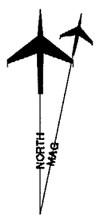
1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONES PROFILES, Sheet 4 of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the PROTECTION ZONES PLAN, Sheet 5 of these plans.
4. Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated PART 77 AIRSPACE PLAN.



NOTE: THIS ISOMETRIC IS FOR ILLUSTRATION PURPOSES ONLY AND IS NOT AN ACTUAL REPRESENTATION OF THE RUNWAY(S) DEPICTED ON THIS PART 77 AIRSPACE DRAWING.

ISOMETRIC VIEW OF SECTION THRU CENTERLINE OF RUNWAYS

N.T.S.



MAGNETIC VARIANCE – 11°43'E (April 1995)
RATE OF CHANGE 0.8' WEST

0 2000 4000 6000

SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
⚠	-	-	-	-

SPRINGERVILLE MUNICIPAL AIRPORT

PART 77 AIRSPACE PLAN

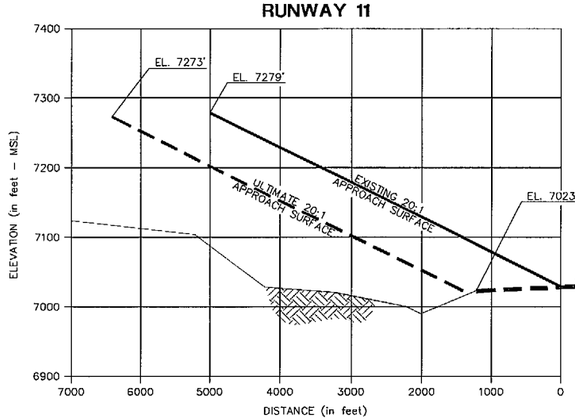
SPRINGERVILLE, ARIZONA

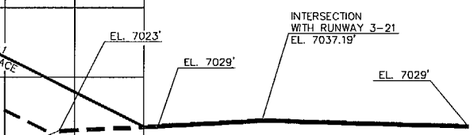
PLANNED BY: Kalbaugh W. May/Scott F. Gray
DETAILED BY: W.E. Holland
APPROVED BY: Jeanette V. Coffman
June 2, 1995

SHEET 3 OF 7

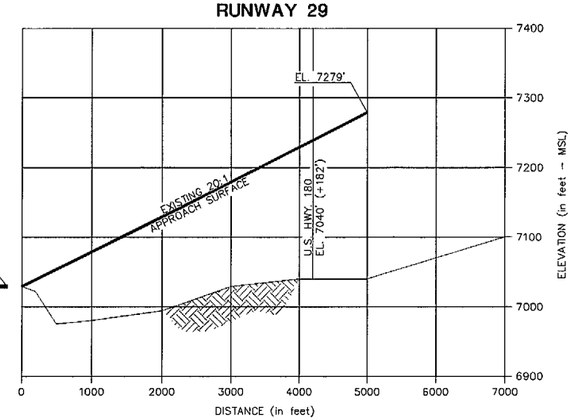
Coffman Associates
Airport Consultants

RUNWAY 11





RUNWAY 29

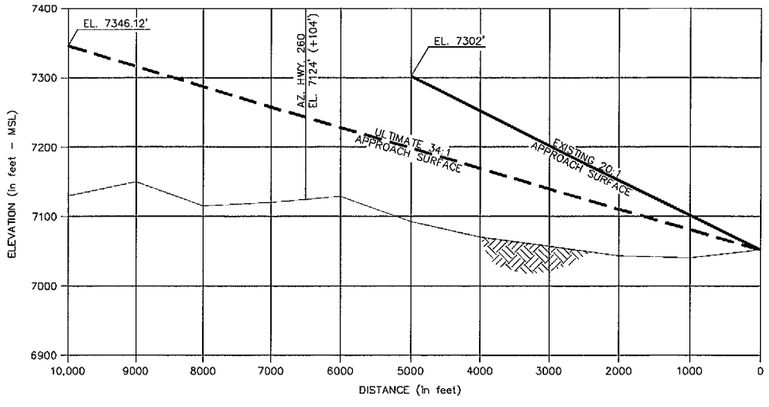


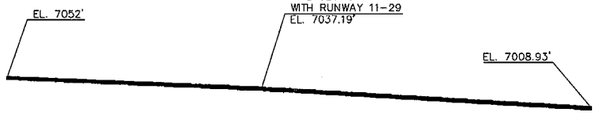
RUNWAY 11-29
APPROACH ZONES PROFILES

HORIZONTAL 0 1000 2000 3000 SCALE IN FEET

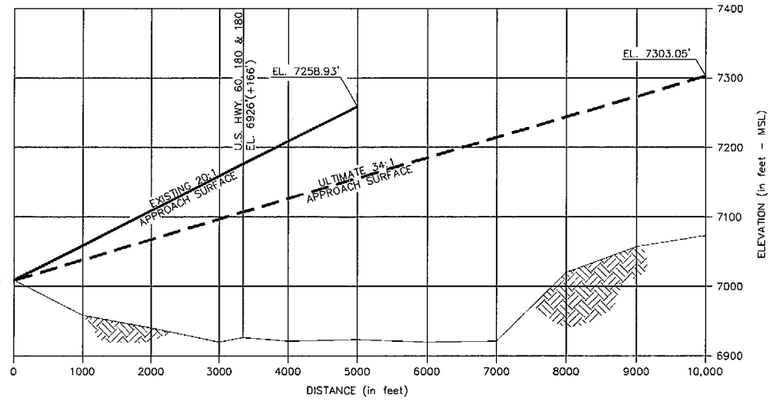
VERTICAL 0 100 200 300 SCALE IN FEET

RUNWAY 3





RUNWAY 21



RUNWAY 3-21
APPROACH ZONES PROFILES

HORIZONTAL 0 1000 2000 3000 SCALE IN FEET

VERTICAL 0 100 200 300 SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
1	-	-	-	-

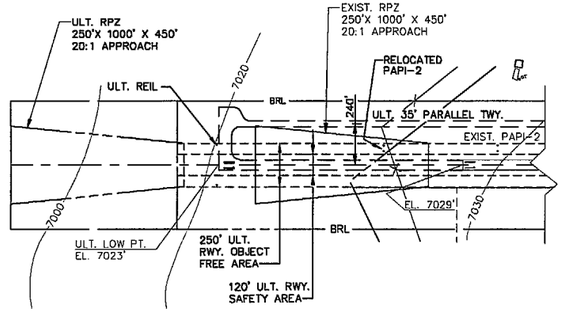
SPRINGERVILLE MUNICIPAL AIRPORT

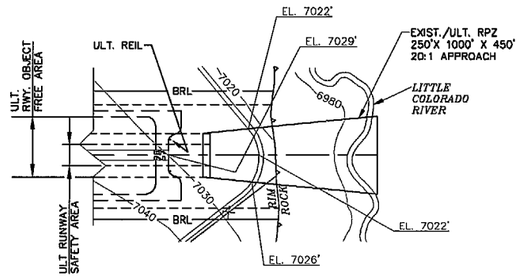
APPROACH ZONES PROFILES

SPRINGERVILLE, ARIZONA

PLANNED BY: Kathryn M. May/Scott T. Gray
DETAILED BY: W.S. Holland
APPROVED BY: Jeanette V. Coffman
October 18, 1995

Coffman Associates
Airport Consultants





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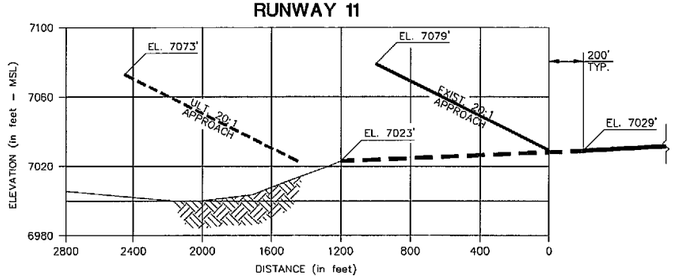
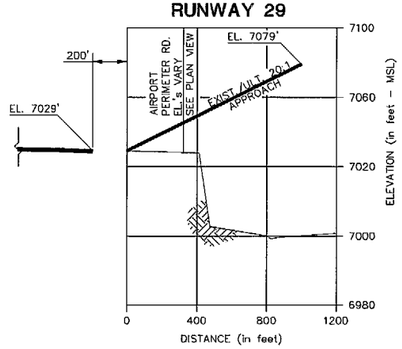
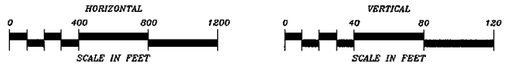
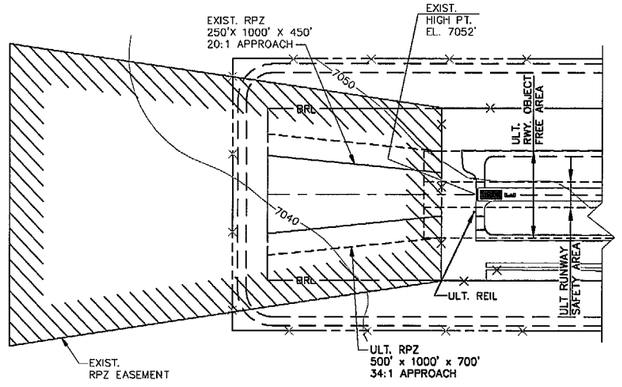


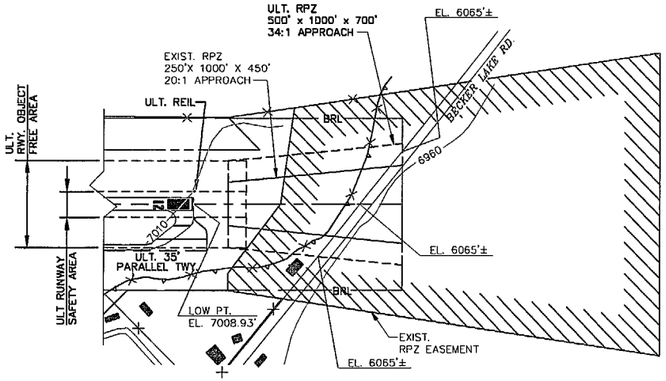
RUNWAY 29



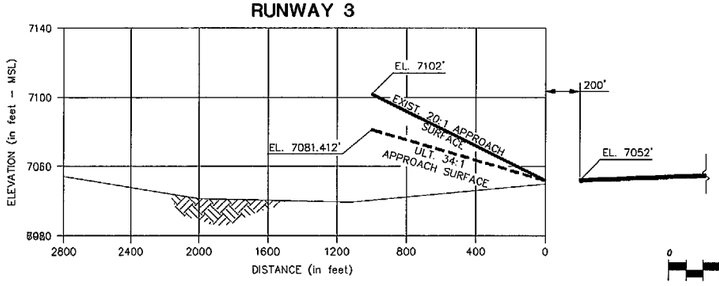
RUNWAY 11-29
RUNWAY PROTECTION ZONES
PLANS AND PROFILES



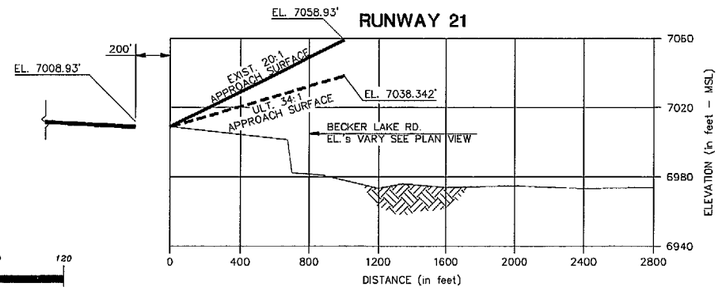




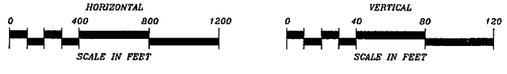
RUNWAY 3



RUNWAY 21



RUNWAY 3-21
RUNWAY PROTECTION ZONES
PLANS AND PROFILES



No.	REVISIONS	DATE	BY	APP'D
1	-	-	-	-

SPRINGERVILLE MUNICIPAL AIRPORT

RUNWAY PROTECTION ZONES PLANS AND PROFILES

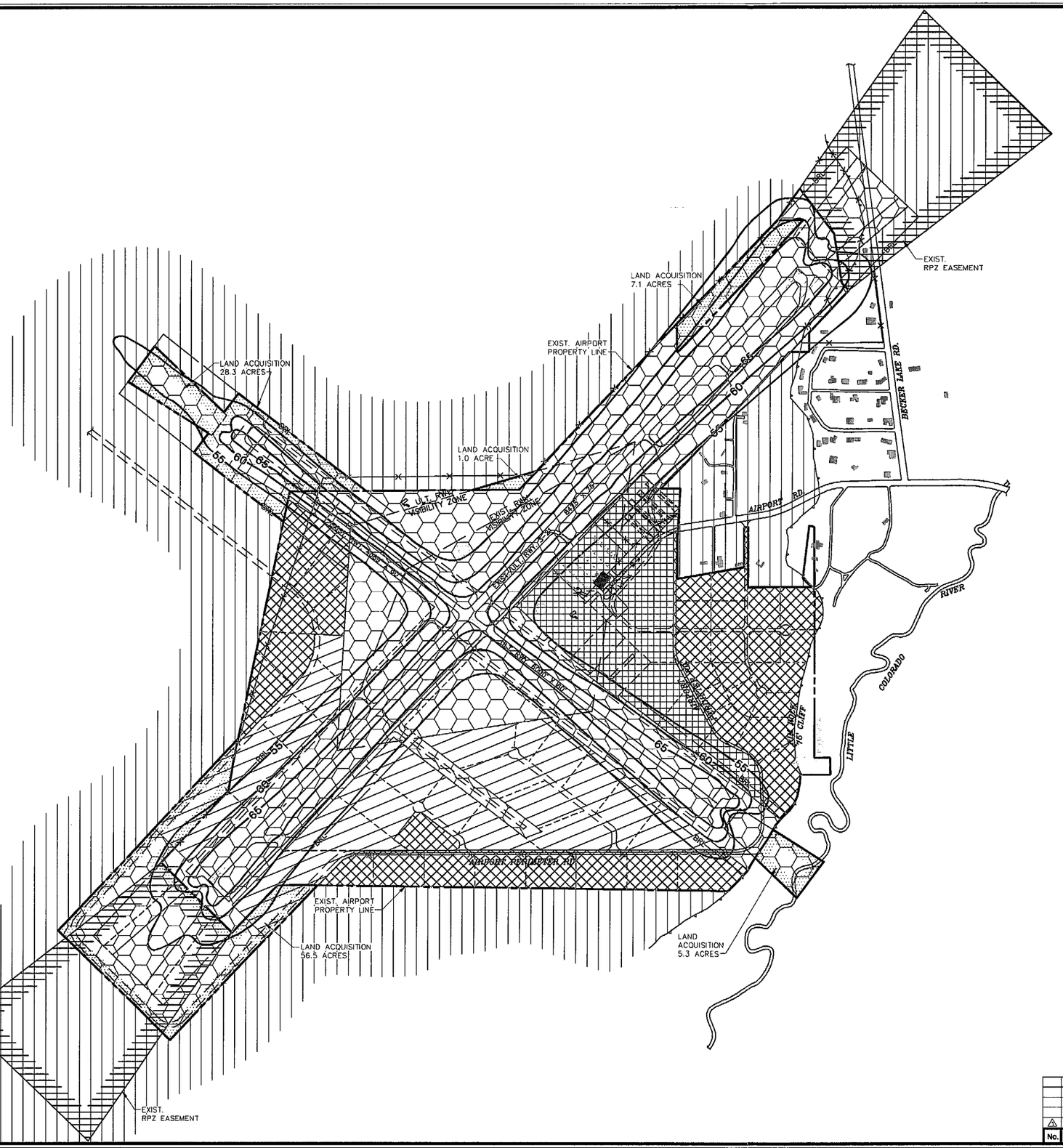
SPRINGERVILLE, ARIZONA

PLANNED BY: Kathryn M. May/Scott T. Gray
DETAILED BY: W.E. Holland
APPROVED BY: Jeanelle V. Coffman

October 18, 1995

SHEET 5 OF 7

Coffman Associates
Airport Consultants



LAND USE LEGEND

ON-AIRPORT

- AIRFIELD OPERATIONS
- GENERAL AVIATION
- AVIATION-RELATED REVENUE SUPPORT
- GENERAL REVENUE SUPPORT

OFF-AIRPORT

- RESIDENTIAL ZONE
- COMMERCIAL/ INDUSTRIAL/AGRICULTRAL

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- ULTIMATE AIRPORT PROPERTY LINE
- 65 DNL CONTOUR – 2015
- SECTION CORNER

NORTH MAG

MAGNETIC VARIANCE – 11°48'E (April 1995)
RATE OF CHANGE 0.8° WEST

0 500 1000 1600
SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
1	-	-	-	-

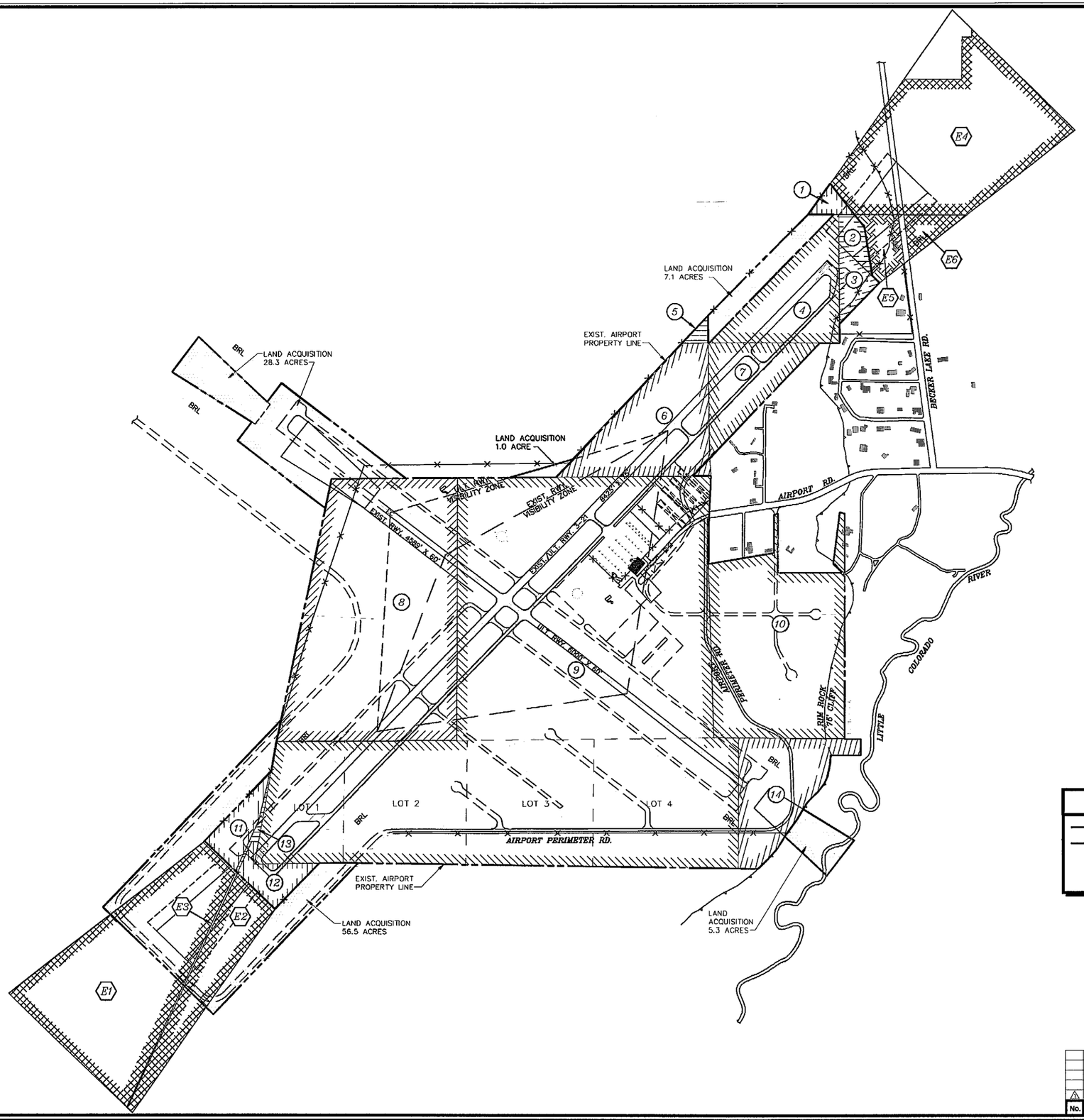
SPRINGERVILLE MUNICIPAL AIRPORT

AIRPORT LAND USE/ NOISE PLAN

SPRINGERVILLE, ARIZONA

PLANNED BY: Kathryn W. May/Scott T. Gray
DETAILED BY: W.E. Holland
APPROVED BY: Jeanette V. Coffman
October 18, 1995 SHEET 6 OF 7

Coffman Associates
Airport Consultants



DEED REFERENCE
SPRINGERVILLE MUNICIPAL AIRPORT

PARCEL NO.	OWNER/GRANTOR	REFERENCE	RECORD DATE	ACREAGE See note ⚠	DESCRIPTION
1	John C. and Cheryl L. Hall	Docket: 696 Pages: 404/405	11/5/92	1.2713	Warranty Deed
2	John C. and Cheryl L. Hall	Docket: 696 Pages: 406/407	11/5/92	3.6024	Warranty Deed
3	John C. and Cheryl L. Hall	Docket: 696 Pages: 402/403	11/5/92	3.7750	Warranty Deed
4	Milford and Genevieve Hall	Docket: 106 Pages: 235	5/18/61	20.52	Partial Release of Mortgage
5	Tom Chauncey	Docket: 697 Pages: 155/156	11/16/92	0.8069	Warranty Deed
6	Milford and Genevieve Hall	Docket: 106 Pages: 235	5/18/61	29.05	Partial Release of Mortgage
7	William Williams & Sara Williams	Docket: 107 Pages: 456	7/11/68	14.91	Warranty Deed
8	John C. and Cheryl L. Hall	Docket: 294 Pages: 190	5/5/78	95.679	Warranty Deed
9	Springerville–Eagar Airport Corp.	Docket: 495 151/152	6/10/48	299.439	Warranty Deed
10	Springerville–Eagar Airport Corp.	Docket: 495 Pages: 151	6/10/48	56.209	Warranty Deed
11	Tom Chauncey	Docket: 697 Pages: 153/154	11/16/92	5.5514	Warranty Deed
12	Udall, et. al.	Docket: 696 Pages: 270/271	11/4/92	5.2588	Warranty Deed
13	Tom Chauncey	Docket: 697 Pages: 157/158	11/16/92	0.7892	Warranty Deed
14	Springerville–Eagar Airport Corp.	Docket: 495 Pages: 151	6/10/48	21.407	Warranty Deed
E1	Tom Chauncey	Docket: 695 Pages: 100 to 105	10/20/92	60.6177	RPZ Easement
E2	Udall, et. al.	Docket: 696 Pages: 272 to 277	11/4/92	17.2774	RPZ Easement
E3	Tom Chauncey	Docket: 695 Pages: 112 to 117	10/20/92	1.0190	RPZ Easement
E4	John C. and Cheryl L. Hall	Docket: 696 Pages: 411 to 417	11/3/92	57.8254	RPZ Easement
E5	John C. and Cheryl L. Hall	Docket: 696 Pages: 424 to 430	11/3/92	5.5050	RPZ Easement
E6	John C. and Cheryl L. Hall	Docket: 696 Pages: 418 to 423	11/3/92	3.6673	RPZ Easement

⚠ Acreage calculated based on legal descriptions provided by the Town of Springerville, and are subject to field and record verification.

LEGEND

EXISTING AIRPORT PROPERTY LINE

ULTIMATE AIRPORT PROPERTY LINE

32 | 5
31 | 6 SECTION CORNER

NORTH
MAG

MAGNETIC VARIANCE – 11°43'E (April 1995)
RATE OF CHANGE 0.8' WEST

0 500 1000 1500

SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
⚠	-	-	-	-

SPRINGERVILLE MUNICIPAL AIRPORT

AIRPORT PROPERTY MAP

SPRINGERVILLE, ARIZONA

PLANNED BY: Kathryn W. May/Scott T. Gray
DETAILED BY: W.S. Holland
APPROVED BY: Jeanelle V. Coffman

October 18, 1995 SHEET 7 OF 7

Coffman Associates
Airport Consultants